

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A liquid processing apparatus for forming a coating film on a polygonal substrate by spin coating in an ambient with a descending clean air flow, comprising:

a spin chuck including a support plate for substantially horizontally supporting the substrate thereon, the support plate rotating the substrate in a substantially horizontal plane;

a cup disposed around the substrate supported on the support plate;

an exhaust unit for evacuating an inside of the cup;

a supply nozzle for supplying a coating solution to a top surface of the substrate supported on the support plate; and

at least one air flow control member provided on the support plate, the air flow control member being disposed adjacent to a periphery of the polygonal substrate supported on the support plate, wherein the air flow control member is not provided near corner portions of the substrate supported on the support plate,

wherein the support plate has a generally polygonal shape corresponding to the substrate, and is provided with cutout at corners thereof, the corner portions of the substrate outwardly protruding from the support plate through the cutout portions thereof when the substrate is supported on the support plate, and

wherein the liquid processing apparatus further comprises a single body transfer arm having a number of support extrusions for supporting the corner portions of the substrates corresponding to the cutout portions of the support plate, respectively, wherein the transfer arm unloads the substrate from the support plate by supporting the protruded corner portions of the substrate by the support extrusions.

Claim 2 (Previously Presented): The liquid processing apparatus of claim 1, wherein a top surface of the air flow control member is substantially at the same level as that of the substrate supported on the support plate.

Claim 3 (Original): The liquid processing apparatus of claim 1, wherein the air flow control member includes a portion facing the periphery of the substrate and a flat portion outwardly extending from the portion facing the periphery of the substrate.

Claim 4 (Original): The liquid processing apparatus of claim 1, wherein the air flow control member includes an arc shaped outer rim.

Claim 5 (Previously Presented): The liquid processing apparatus of claim 1, further comprising a plurality of upright walls facing sides of the polygonal substrate, respectively, wherein the upright walls are disposed between the air flow control member and the support plate along the sides of the polygonal substrate supported on the support plate.

Claims 6-7 (Cancelled).

Claim 8 (Currently Amended): The liquid processing apparatus of claim [[6]] 1, wherein a size of each of the cutout portions ranges from about 4 mm to 10 mm.

Claim 9 (Original): The liquid processing apparatus of claim 1, wherein the support plate includes at least one ventilation hole formed therethrough, the ventilation hole communicating with the exhaust unit.

Claim 10 (Previously Presented): The liquid processing apparatus of claim 9, wherein each ventilation hole is provided at a location corresponding to a corner portion of the substrate supported on the support plate, as viewed from above.

Claim 11 (Previously Presented): The liquid processing apparatus of claim 1, further comprising:

a ring plate for controlling the descending clean air flow towards the substrate supported on the support plate, the ring plate being disposed above the air flow control member; and

a Z-drive mechanism for adjusting a distance H1 between the ring plate and the air flow control member, the ring plate being vertically movably supported by the Z-drive mechanism.

Claim 12 (Original): The liquid processing apparatus of claim 1, further comprising:

an air flow regulation ring including an air inlet having an opening surrounding an outer periphery of the air flow control member, wherein the air inlet communicates with the exhaust unit.

Claim 13 (Original): The liquid processing apparatus of claim 12, wherein a top surface of the air flow regulation ring is disposed at a higher position than that of the air flow control member.

Claim 14 (Previously Presented): The liquid processing apparatus of claim 12, further comprising a plurality of spacers for providing a gap between the support plate and the air flow control member.

Claim 15 (Previously Presented): The liquid processing apparatus of claim 12, wherein a top surface of the air flow control member is substantially at the same level as that of the substrate supported on the support plate.

Claim 16 (Previously Presented): The liquid processing apparatus of claim 12, further comprising:

a ring plate for controlling the descending clean air flow towards the substrate supported on the support plate, the ring plate being disposed above the air flow control member; and

a Z-drive mechanism for adjusting a distance H2 between the ring plate and the air flow regulation ring, the ring plate vertically moving supported by the Z-drive mechanism.

Claims 17-20 (Cancelled).